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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,848	03/23/2001	Charlotte Johansen	4814.214-US	5761

25908 7590 01/14/2004

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EXAMINER	
PROUTY, REBECCA E	

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/815,848	JOHANSEN, CHARLOTTE	
	Examiner	Art Unit	
	Rebecca E. Prouty	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-52* is/are pending in the application.

4a) Of the above claim(s) *38-40,43-45,47,50 and 52* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-37,41,42,46,48,49 and 51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Claims 1-30 have been canceled. Newly presented claims 31-52 are at issue and are present for examination.

Applicants' arguments filed on 10/29/03, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Claims 38-40, 43-45, 47, 50 and 52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the response filed 4/24/03.

Claims 31-37, 41, 42, 46, 48, and 51 are indefinite in the recitation of "an enhancing agent" as it is unclear what the scope of this term is. While the specification describes some compounds that increase the peroxidase activity of *Coprinus* peroxidase, the term is not defined to be limited to this activity, and thus it is unclear what the scope of the term includes.

Applicants argue that one of ordinary skill in the art would understand that this term encompasses any compound that enhances the activity of a *Coprinus* peroxidase. However, this is not persuasive because it is not clear what changes to activity

constitute "enhancement". For example if a compound alters the pH optima of the enzyme is this an enhancement?. Many other changes in the properties of the enzyme could be made and the specification does not define which are considered enhancing. Thus the scope of the term is unclear.

Claims 31-37, 41, 42, 46, 48, 49, and 51 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is explained in the previous Office Action.

Applicants argue that the specification describes a DNA sequence encoding a *Coprinus* peroxidase and a skilled artisan would appreciate that other *Coprinus* peroxidases would have homologous amino acid sequences. This is not persuasive because the occurrence of multiple different species of an enzyme with unrelated or only low structural similarity to each other within an organism is frequent, particularly when the activity is as broad as the term peroxidase which encompasses multiple different activities. There is nothing to suggest that the single disclosed *Coprinus* peroxidase is representative of the structures

of all *Coprinus* peroxidases as claimed. As such the single disclosed *Coprinus* peroxidase disclosed cannot be considered to be representative of the entire genus.

Applicants further argue that the specification describes a number of peroxidase enhancing agents. However, the few disclosed sub-genera of enhancing agents appear to share no structural similarity and the specification fails to describe what identifying characteristics other "enhancing agents" have such that a skilled artisan would recognize other members of the genus. As such the enhancing agents disclosed cannot be considered to be representative of the entire genus.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 31-37, 41, 42, 46, 48, 49 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO96/06532) in view of Schneider et al. (WO96/10079). The rejection is explained in the previous Office Action.

Applicants argue Example 3 of Johansen shows that peroxidase was not effective in killing or inhibiting microorganisms and thus that Johansen does not suggest the use of peroxidases for killing or inhibiting microorganisms. It is presumed that applicant is in fact referring to Example 2 of Johansen as Example 3 is drawn to the influence of pH and cell concentration on the anti-bacterial effect of protamine and does not include a comparison of the effects of protamine and enzymes on microorganisms at all. The footnotes to the table presented in Example 2 states "The lactoperoxidase system was effective for maximum 70 hours. The definition of MIC require an inhibition of at least 100 hours". Thus it appears that data purporting to show that the peroxidase was ineffective in killing or inhibiting microorganisms is in fact merely an artifact of the assay used by Johansen. The footnote clearly shows that at shorter time periods the peroxidase did appear to inhibit the microorganisms. As such one would only be dissuaded from using this system only if long time periods of inhibition would be necessary. Standard detergent applications as suggested in the rejection, virtually

never require such long periods of time. Furthermore, Johansen clearly suggest that the combination of protamine and a peroxidase system is synergistically effective (see Example 4) in killing or inhibiting microorganisms. Applicants claims in no way exclude the inclusion of protamine in the compositions. As such the skilled artisan having the disclosures of both Johansen and Schneider would have been motivated to make detergent compositions including enhancing agents, a peroxidase system, protamine and other standard detergent components.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca Prouty, Ph.D. whose telephone number is (703) 308-4000. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, can be reached at (703) 308-3804. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Rebecca Prouty
Primary Examiner
Art Unit 1652